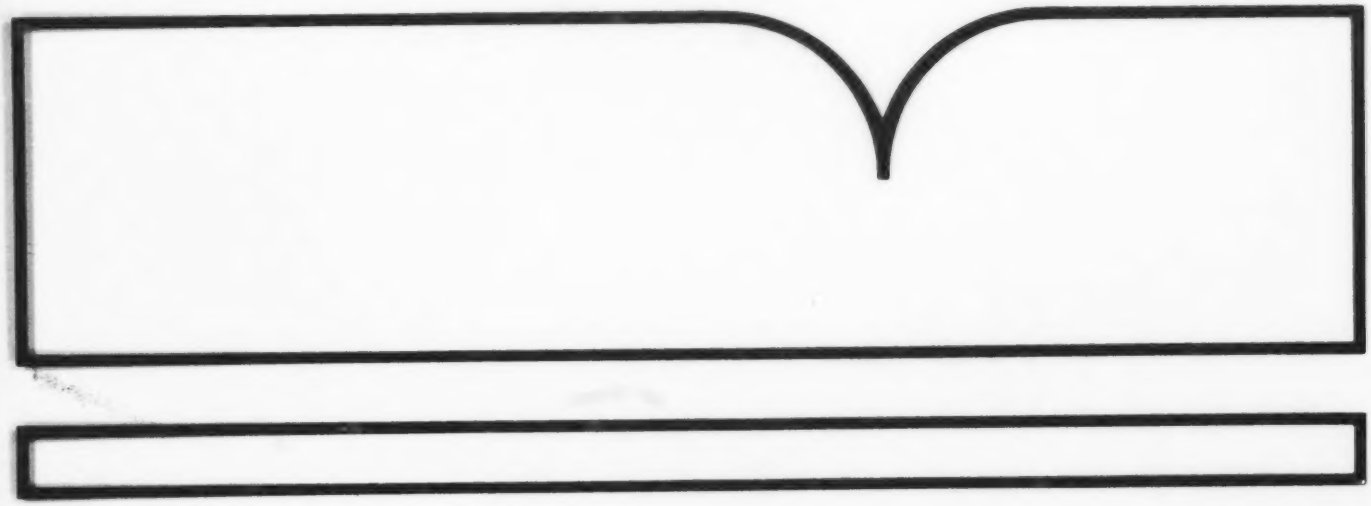
PB87-192746

Pesticide Fact Sheet Number 126: Isomate-M

(U.S.) Environmental Protection Agency
Washington, DC

31 Apr 87



U.S. Department of Commerce
National Technical Information Service
NTIS

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO.	2.	PB87-192746

4. Title and Subtitle
EPA Pesticide Fact Sheets - ISOMATE-M No. 126

5. Report Date
Issued 4/31/87

6.

7. Author(s)
EPA, Office of Pesticide Programs, Registration Division

8. Performing Organization Rept. No.
540/FS-87-186

9. Performing Organization Name and Address
US Environmental Protection Agency
Office of Pesticide Programs
Registration Division, TS-767C
401 M Street, S.W.
Washington, D.C. 20460

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G)

12. Sponsoring Organization Name and Address
Same as #9

13. Type of Report & Period Covered

14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

This document contains up-to-date chemical information, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the following actions has occurred.

1. Issuance or reissuance of a registration standard,
2. Issuance of each special review document,
3. Registration of a significantly changed use pattern,
4. Registration of a new chemical, or
5. An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.

17. Document Analysis a. Descriptors

Pesticides, regulations, Chemical Information Fact Sheet, Use Patterns, Science Findings

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement:	19. Security Class (This Report)	21. No. of Pages
Publicly Available	Unclassified	4
	20. Security Class (This Page) Unclassified	22. Price

(See ANSI-Z39.18)

REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
NATIONAL TECHNICAL
INFORMATION SERVICE
SPRINGFIELD, VA. 22161

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

United States
Environmental Protection
Agency

Office of Pesticides and Toxic Substances
Office of Pesticide Programs (TS-766C)
Washington, DC 20460

EPA

Pesticide Fact Sheet

Name of Chemical: Isomate-M
Reason for Issuance: New Biochemical Pesticide
Date Issued: APR 31 1987
Fact Sheet Number: 126

1. Description of Biochemical Pesticide (Pheromone)

Chemical Names: Z-8-dodecen-1-yl-acetate
E-8-dodecen-1-yl-acetate
Z-8-dodecen-1-ol

Common Name: Oriental Fruit Moth Pheromone

Trade Name: Isomate-M

EPA/OPP Chemical Code (Shaughnessy) Number(s):

Z-8-Dodecen-1-yl actetate - 128906

E-8-Dodecen-1-yl acetate - 128907

Z-8-Dodecen-1-ol - 128908

Chemical Abstracts Service (CAS) Number: 410C

Year of Initial Registration: 1986

Pesticide Type: Biochemical Pesticide

U.S. and Foreign Product(s): Biocontrol, Ltd. of Australia

2. Use Pattern and Formulation(s):

Application Site: Six-inch polyethylene tie-ons for fruit trees in orchards (specifically peaches and nectarines).

Pests Controlled: Oriental Fruit Moth (Grapholitha molesta).

3. Science Findings

Summary Science Statement:

The available information that has been reviewed suggests that Isomate-M is potentially safer than many conventional pesticides currently used

for control of the same pest. Due to the fact that this product is a pheromone which will be used only in plastic dispensers, environmental exposure is expected to be minimal.

Biochemical Pesticide Characteristics:

Isomate-M is a pheromone of the oriental fruit moth. Control of the pest is obtained through mating disruption.

This pheromone is applied only in plastic dispensers which are twisted around the branches of peach/nectarine trees in the orchard. Application rate is four dispensers per tree in standard orchard spacing, or 400 dispensers per acre. This is equivalent to approximately 30 mg of active ingredient per hour, or 12.145 mg per acre per hour. Isomate-M is species-specific; therefore, it does not affect other nontargeted or beneficial species.

Data Requirements

1. Product Analysis:

   Product identity and disclosure requirements have been satisfied.

2. Residue Chemistry Data:

   Residue chemistry data are applicable only if Tier II or Tier III toxicology data are required as specified by 40 CFR 158.165(e). This was not the case with this product. Therefore, no residue data are required in order to register Isomate-M.

3. Ecological Effects Data:

   The applicable data requirements consist of the following:

   a. Avian single-dose oral toxicity test for one species, preferably bobwhite quail (Guideline No. 154-6);

   b. Fish acute bioassay for one species, preferably rainbow trout (Guideline No. 154-8); and

   c. Aquatic invertebrate acute bioassay, preferably Daphnia (Guideline No. 154-9).

These tests must be conducted with technical material, and the protocols, including formulas for calculating maximum dose levels, for conducting the studies can be found in Pesticide Assessment Guidelines, Subdivision M, Biorational Pesticides, EPA-540/9-82-028, October 1982.

The registrant has agreed to submit these data. The Agency has decided to issue a conditional registration contingent on the submission of these data.

Toxicology Data

The company submitted a battery of studies as required by 40 CFR 158.165(c).

These studies included the following data which were reviewed and classified as follows:

1. Acute oral LD_{50}, rat

   LD_{50} = > 20 mL/kg (17.12 g/kg)
   Toxicity Category: IV
   Classification: Core Minimum Data

2. Acute dermal LD_{50}, rat

   LD_{50} = > 2000 mg/kg
   Toxicity Category: III
   Classification: Core Minimum Data

3. Primary dermal irritation, rabbit

   P.I. score = 0.96, a slightly irritating agent
   Classification: Core Minimum Data

4. Primary eye irritation, rabbit

   No corneal opacity or iritis. Conjunctival redness in all eyes at 1 and 24 hours, which persisted in three eyes to 48 hours.
   Toxicity Category: III
   Classification: Core Minimum Data

5. Acute inhalation toxicity, rat

   Acute inhalation LC_{50} = > 4.7 mg/L
   Toxicity Category: III
   Classification: Core Minimum Data

6. Ames Mutagenicity Assay

   No mutagenic potential shown by this assay.
   Classification: Acceptable study

Summary of Regulatory Position and Rationale:

Section 3(c)(7)(C) of FIFRA requires that a public interest finding be made before a conditional registration can be issued. The Agency has concluded that this requirement has been satisfied.

Isomate-M is a relatively low-toxicity pesticide which is encapsulated in a plastic tube. This product will be used as part of an Integrated Pest Management system. This will result in the reduction of the use of broad spectrum conventional pesticides of relatively higher toxicity.

Furthermore, the development and use of these innovative methods of pest control are deemed to be in the public interest, since they may serve to alleviate the use of larger quantities and frequency of use of the more conventional pesticides.

Contact Person at EPA:

Arturo E. Castillo
Product Manager (17)
Registration Division (TS-767C)
Office of Pesticide Programs
Environmental Protection Agency
401 M Street SW.
Washington, D.C. 20460